

IN THE CLAIMS:

Claims 30, 35-48, 50, 52-53, 57, 64-65 and 97-69 were previously cancelled without prejudice. Please now cancel claim 82 without prejudice, and amend the claims as follows:

1. (Currently Amended) A system, comprising:
a deflector body disposed inside a body of water characterized by a tilt angle relative to vertical, wherein the tilt angle controls a depth in which the deflector body is disposed inside the body of water;
a bridle connected to a seismic cable, the bridle having a first upper segment secured to a first upper connection point on the deflector body and a first lower segment secured to a first lower connection point on the deflector body, wherein a length of the first upper segment and a length of the first lower segment is used to define a ratio, and wherein the first upper segment, the first lower segment and the deflector body form a geometry and the geometry is manipulated when the ratio is adjusted; and
an actuator coupled to the bridle, wherein the actuator is configured to, ~~and wherein the~~ adjust the ratio of the length of the first upper segment to the length of the first lower segment to vary the tilt angle of the deflector body, thereby controlling the depth of the deflector body as the deflector body is being towed inside the body of water by the vessel.
2. (Previously Presented) The system of claim 1, wherein the actuator adjusts the length of the first upper segment of the bridle relative to the length of the first lower segment of the bridle.
3. (Previously Presented) The system of claim 1, wherein the first upper connection point and the first lower connection point each comprise at least one rotatable towpoint.
4. (Original) The system of claim 3, wherein the rotatable towpoints include

lever arms, pulleys, or a combination thereof.

5. (Original) The system of claim 4, further comprising a further bridle segment extending between the rotatable towpoints.

6. (Previously Presented) The system of claim 5, wherein the further bridle segment is connected to the first upper segment and the first lower segment.

7. (Original) The system of claim 4, wherein the rotatable towpoints are pulleys, and wherein the bridle segments form a loop that extends around the pulleys.

8. (Previously Presented) The system of claim 5, wherein the actuator repositions the further bridle segment extending between the rotatable towpoints.

9. (Previously Presented) The system of claim 1, wherein the actuator repositions the first upper connection point, the first lower connection point, or a combination thereof.

10. (Cancelled)

11. (Original) The system of claim 1, wherein the deflector body is selected from a wing deflector and a deflector door.

12. (Original) The system of claim 1, wherein the deflector body includes a buoyancy element.

13. (Original) The system of claim 1, wherein the deflector body is part of a deflector that is slightly negatively buoyant.

14. (Previously Presented) The system of claim 1, further comprising a controller in communication with the actuator.

15. (Previously Presented) The system of claim 14, further comprising:
a sensor for measuring at least one parameter of the deflector and communicating the at least one parameter measurement to the controller, wherein the controller provides a command to the actuator to achieve at least one parameter setpoint.
16. (Original) The system of claim 15, wherein the at least one parameter is selected from depth of the deflector, motion of the deflector, orientation of the deflector, and combinations thereof.
17. (Original) The system of claim 15, wherein the controller is located within the deflector, the system further comprising a remotely located controller for providing the setpoint depth to the controller within the deflector.
18. (Previously Presented) The system of claim 15, wherein the controller is remotely located on the vessel.
19. (Original) The system of claim 1, wherein the seismic cable is a lead-in.
20. (Original) The system of claim 1, wherein the seismic cable is a streamer.
21. (Original) The system of claim 1, wherein the deflector is not suspended from a separate flotation device.
22. (Original) The system of claim 1, wherein the deflector is independent from a separate flotation device.
23. (Previously Presented) The system of claim 22, wherein an upper end of the deflector has more buoyancy than the lower end of the deflector.

24. (Original) The system of claim 1, wherein the deflector comprises:
a weight element mounted on the lower end of the deflector body; and
a buoyancy element mounted on the upper end of the deflector body.
25. (Previously Presented) The system of claim 14, wherein the controller causes the actuator to vary an angle between the deflector and the seismic cable so that the vertical component of lift from the deflector is substantially equal to the vertical component of gravity minus the vertical component of tension in the seismic cable.
26. (Original) The system of claim 1, wherein the deflector body has a streamlined configuration with a longitudinal axis extending generally downwardly in use.
27. (Previously Presented) The system of claim 26, wherein the first upper segment and the first lower segment of the bridle are connected to the deflector body on a line extending parallel to the longitudinal axis of the deflector body.
28. (Original) The system of claim 27, wherein the line is forward of the longitudinal axis.
29. (Previously Presented) The system of claim 27, wherein the first upper segment and the first lower segment have a length that is adjustable.
30. (Cancelled)
31. (Previously Presented) The system of claim 1, wherein the deflector body is selected from a wing deflector and a deflector door.
32. (Previously Presented) The system of claim 1, further comprising: a pivot float attached to the seismic cable forward of the deflector body.

33. (Original) The system of claim 32, wherein the pivot float serves as a pivot point from which the deflector pivots when the deflector depth is adjusted.

34. (Previously Presented) The system of claim 1, wherein the actuator adjusts the ratio using a load balancing principle.

35-48. (Cancelled)

49. (Currently Amended) A method for controlling a depth of a deflector under tow, comprising:

coupling a deflector to a bridle;[[,]]

coupling the bridle to a towing cable;

coupling the towing cable to a vessel;

coupling a first segment of the bridle to a first upper rotatable towpoint on the deflector;

coupling a second segment of the bridle to a first lower rotatable towpoint on the deflector;

towing the deflector behind the vessel, thereby forming a tilt angle between the deflector and a vertical; and

adjusting the ratio of the length of the first segment to the length of the second segment to vary the tilt angle between the deflector and the vertical using the first upper rotatable towpoint and the first lower rotatable towpoint, thereby controlling the depth of the deflector inside a body of water as the deflector is being towed behind the vessel, wherein the first segment, the second segment and the deflector form a geometry and the geometry is manipulated when the ratio is adjusted.

50. (Cancelled)

51. (Original) The method of claim 49, further comprising: remotely controlling the tilt angle to change the depth.

52-53 (Cancelled)

54. (Original) The method of claim 49, further comprising:

measuring the depth of the deflector; and

providing a command for the deflector to achieve a different depth.

55. (Previously Presented) The method of claim 49, further comprising:

adjusting the first upper rotatable towpoint or the first lower rotatable towpoint or both with respect to the deflector body between the forward and rearward edges thereof.

56. (Previously Presented) The method of claim 49, further comprising:

coupling a float to the towing cable upstream of the deflector, wherein a change in the tilt angle causes the deflector to pivot about the float.

57. (Cancelled)

58. (Previously Presented) The method of claim 49, wherein the first upper connection point and the first lower connection point are rotatable towpoints comprising lever arms, pulleys, or a combination thereof.

59. (Original) The method of claim 58, further comprising: providing a further bridle segment extending between the upper and lower rotatable towpoints.

60. (Original) The method of claim 59, further comprising: rotating the rotatable towpoints to cause a change in the tilt angle of the deflector.

61. (Original) The method of claim 60, wherein the upper and lower rotatable towpoints are pulleys, and wherein the bridle segments form a loop that extends around the pulleys.

62. (Original) The method of claim 60, further comprising: repositioning the bridle segment extending between the at least two rotatable towpoints.

63. (Previously Presented) The method of claim 49, further comprising: repositioning the first upper connection point, the first lower connection point, or a combination thereof.

64-65. (Cancelled)

66. (Currently Amended) The method of claim 49, further comprising:
coupling a third segment of the bridle to a second upper rotatable towpoint, wherein the second upper rotatable towpoint is located at a horizontal distance away from the first upper rotatable towpoint;

coupling a fourth segment of the bridle to a second lower rotatable towpoint, wherein the second lower rotatable towpoint is located at the horizontal distance away from the first lower rotatable towpoint; and

controlling an angle of attack by adjusting the ratio of the lengths of the first and second segments to the lengths of the third and fourth segments, wherein the angle of attack controls a lateral position of the deflector.

67-70. (Cancelled)

71. (Previously Presented) The system of claim 1, wherein the actuator is a hydraulic cylinder coupled between the first upper segment and the first upper connection point such that the hydraulic cylinder shortens or lengthens the first upper segment.

72. (Previously Presented) The system of claim 1, wherein the actuator is a hydraulic cylinder coupled between the first lower segment and the first lower connection point such that the hydraulic cylinder shortens or lengthens the first lower segment.

73. (Previously Presented) The system of claim 71, further comprising a second actuator, wherein the second actuator is a second hydraulic cylinder coupled between the first lower segment and the first lower connection point such that the second hydraulic cylinder shortens or lengthens the first lower segment.

74. (Previously Presented) The system of claim 1, wherein the bridle is connected to the seismic cable via an inverted toothed wheel that is rotatably driven by the actuator such that the inverted toothed wheel controls the tilt angle.

75. (Previously Presented) The system of claim 1, further comprising a second actuator for varying an angle of attack of the deflector body, wherein the actuator and the second actuator are operated independently.

76. (Previously Presented) The system of claim 1, wherein the deflector body further comprises an upper controllable movable flap and a lower controllable movable flap.

77. (Previously Presented) The system of claim 76, wherein the actuator rotates the upper controllable movable flap and the lower controllable movable flap in opposite directions to control the tilt angle.

78. (Previously Presented) The system of claim 76, wherein the actuator rotates one of the controllable movable flaps to control the tilt angle.

79. (Previously Presented) The system of claim 1, wherein the bridle further comprises a frame having a first rigid segment, a second rigid segment, and a third rigid segment, wherein a first end of the first rigid segment is coupled to the first upper segment and a second end of the first rigid segment is coupled to the first lower segment, and wherein a first end of the second rigid segment and a first end of the third rigid segment are coupled to the seismic cable, and wherein a second end of the

second rigid segment is coupled to the first end of the first rigid segment or the second end of the first rigid segment, and wherein a second end of the third rigid segment is coupled to a point on the first rigid segment.

80. (Previously Presented) The system of claim 79, wherein the first, second and third rigid segments are pivotally connected.

81. (Previously Presented) The system of claim 79, wherein the actuator is a hydraulic cylinder coupled to the second rigid segment, wherein the hydraulic cylinder applies a force on the second rigid segment such that the force causes a rotation of the first upper segment at the point thereby controlling the tilt angle.

82. (Cancelled)

83. (Previously Presented) The system of claim 1, wherein the bridle further comprises:

- a second upper segment secured to a second upper connection point, wherein the second upper connection point is located at a horizontal distance away from the first upper connection point; and

- a second lower segment secured to a second lower connection point, wherein the second lower connection point is located at the horizontal distance away from the first lower connection point.

84. (Previously Presented) The system of claim 83, wherein the actuator is configured to vary an angle of incidence by varying the lengths of the first upper segment, the second upper segment, the first lower segment, and the second lower segment, wherein the angle of incidence controls a lateral position of the deflector body.